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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,758	09/12/2003	Yu-Fang Wang	048747-0203	8155
23392	7590	07/28/2005	EXAMINER	
FOLEY & LARDNER 2029 CENTURY PARK EAST SUITE 3500 LOS ANGELES, CA 90067			KIM, RICHARD H	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,758

Applicant(s)

WANG, YU-FANG

Examiner

Richard H. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/28/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 24 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite the term “vias”. However, there is no indication in the claims nor the specification as to the meaning of “vias”. “Vias” is neither found in the dictionary.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6, 7, 11-15, 17, 18, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (US 5,919,532).

Referring to claim 1, Sato et al. discloses a method comprising providing a substrate (Fig. 2, ref. 1); forming respective gate lines and signal lines on the substrate (Fig. 2, ref. 15, 16), wherein the plurality of gate lines and signal lines define respective pixel areas (Fig. 2, ref. 12);

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forming a plurality of switching elements electrically connected to the signal lines and gate lines for the pixel areas (Fig. 1, ref. 3); forming a protruding pattern on the gate line, the signal lines and the switching elements to define respective color filter unit areas (Fig. 1, 2, ref. 11; col. 24, lines 16-20); applying colored resin to form respective color filter units in the color filter unit areas defined by the protruding pattern (Fig. 5G); the respective color filter units having respective top surfaces with edge portions that are substantially planar with respective edge portions of a top surface of the protruding pattern (Fig. 8); and forming respective pixel electrodes on the respective top surfaces of the respective color filter units and on the respective edge portions of the top surface of the protruding pattern (Fig. 4, ref. 12).

Referring to claim 12, Sato et al. discloses a device comprising a substrate (Fig. 2, ref. 1); a pixel matrix comprising a plurality of gate lines and signal lines formed on the substrate (Fig. 2, ref. 15, 16), wherein the gate lines and signal lines define respective pixel areas (Fig. 2, ref. 12); respective switching elements for each of the pixel areas electrically connected to the signal lines and gate lines (Fig. 1, ref. 3); a protruding pattern formed on the gate lines, the signal lines and the switching elements and defining respective color filter unit areas (Fig. 1, ref. 11); respective color filter units formed in the respective color filter unit areas (Fig. 4, ref. 13), the respective color filter units having respective top surfaces with the edge portions that are substantially planar with respective edge portions of a top surface of the protruding pattern (Fig. 8, ref. 11, 13); and respective pixel electrodes formed on the respective top surfaces of the respective color filter units and on the respective edge portions of the top surface of the protruding pattern (Fig. 4, ref. 12).

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Referring to claims 2 and 13, Sato et al. discloses that the substrate is an insulator (Fig. 4, ref. 1).

Referring to claim 3 and 14, Sato et al. discloses that the switching elements are thin film transistors (col. 24, lines 12).

Referring to claim 4 and 15, Sato et al. discloses that the protruding pattern is made of organic material (col. 24, line 13).

Referring to claims 6 and 17, Sato et al. discloses that the protruding pattern comprises respective contact holes exposing parts of corresponding switching elements (Fig. 2, ref. 11').

Referring to claims 7 and 18, Sato et al. discloses the method and device wherein the pixel electrodes electrically connect to corresponding switching element via the contact holes (Fig. 2, ref. 12).

Referring to claims 11 and 22, Sato et al. discloses that the colored resin is applied by inkjet printing (Fig. 5G).

Referring to claim 23, Sato et al. discloses a gate electrode extending from a gate line (Fig. 2, ref. 5); a gate insulating layer formed on the gate electrodes (Fig. 2, ref. 6); and a pair of source and drain electrodes formed on the gate insulating layer above the gate electrode to form a thin film transistor (Fig. 2, ref. 9a, 9b).

Referring to claim 24, Sato et al. discloses the device previously recited, and further discloses the method wherein the step of forming a plurality of switching elements electrically connected to the signal line and gate lines for the pixel areas comprises forming a plurality of gate electrodes connected to the gate lines (5); forming a first insulating layer on the plurality of gate electrodes (6); forming a plurality of source electrodes and a plurality of drain electrodes on

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the first insulating layer, the plurality of source electrodes being connected to the signal lines (8a, 8b); and forming a second insulating layer on the plurality of source electrodes and the plurality of drain electrodes, the second insulating layer formed with respective vias passing through the second insulating layer over respective drain electrodes of the plurality of drain electrodes (11'); and wherein the step of forming the protruding pattern on the gate lines, the signal lines and the switching elements to define respective color filter areas comprises forming a protruding pattern on the gate line, the signal line and the switching elements to define respective color filter unit areas (11), the protruding pattern formed with respective contact holes aligned with corresponding vias in the second insulating layer (11').

Referring to claim 25, Sato et al. discloses the device wherein each of the switching elements comprises a first electrodes, the first electrode being a gate electrode (5); a second electrode (8a); a third electrode (8b); and an insulating layer covering the second and third electrodes, the insulating layer having a via passing through the insulating layer from a top surface of the insulating layer to one of the second and third electrodes (11')' and wherein the protruding pattern has respective contact holes that area aligned with corresponding vias in the insulating layer of respective switching elements (11').

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 8, 9, 10 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 5,919,532).

Referring to claims 8 and 19, Sato et al. discloses the device and method previously recited, but fails to disclose that the protruding pattern is patterned by photolithography using a photoresist material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the protruding pattern to be patterned by photolithography using a photoresist material since photolithography is well known in the art an efficient and precise etching technique.

Referring to claims 9, 10, 20 and 21, Sato et al. discloses the device and method previously recited, but fails to disclose that the gate lines and signal lines are made of opaque conductive materials and the pixel electrodes are substantially made of transparent conductive materials.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the gate lines and signal lines to be made of opaque conductive materials and the pixel electrodes to be substantially made of transparent conductive materials since using such materials for the gate lines, signal lines and pixel electrodes are well known in the art to produce a high quality display with good conductive properties.

5. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Takizawa et al. (US 6,573,964 B1).

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Referring to claims 5 and 16, Sato et al. discloses the device and method previously recited. Sato et al. further discloses that the protruding pattern is made of carbon black (col. 6, lines 5-6). However, the reference does not disclose that the protruding pattern further includes polyimide and novolak resin.

Takizawa et al. discloses an insulating layer made of novolak and polyimide (col. 11, lines 53-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the protruding pattern to further include polyimide and novolak resin since one would be motivated to utilize an effective material capable of dividing two different areas of a liquid crystal display (abstract).

Response to Arguments

6. Applicant's arguments filed 5/4/05 have been fully considered but they are not persuasive.

7. In response to Applicant's argument that Sato et al. does not disclose the newly added limitation to the claims, Examiner submits that the respective color filter units of Sato et al. have respective top surfaces with edge portion that are *substantially* planar with respective edge portions of a top surface of the protruding pattern (Fig. 8, ref. 13); and respective pixel electrodes on the respective top surface of the respective color filter units and on the respective edge portions of the top surface of the protruding pattern (Fig. 8, ref. 13, 11).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard H Kim
Examiner
Art Unit 2871

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